

THE CLAIMS

What is claimed is:

1. A multilayer film comprising:

a layer of sealing film, having main top and bottom surfaces; and

a layer of thermoplastic polymer film, laminated to the layer of sealing film, on

at least one of the main top and bottom surfaces;

wherein the sealing film has a composition and thickness imparting gas barrier
character to the multilayer film and wherein the layer(s) of thermoplastic
polymer film alone lacks such gas barrier character.

2. The multilayer film of claim 1, wherein the thermoplastic polymer film comprises a
thermoplastic polymer selected from the group consisting of polyurethane elastomers, polyester
ether elastomers, polyamide elastomers, polyamides, styrenic elastomers, polyvinylchloride,
polyvinylethers, ethylene vinyl acetate, polyethylene, polyethylene copolymers, polypropylene
copolymers, and combinations of two or more of the foregoing, and wherein when the
multilayer film comprises more than one layer of thermoplastic polymer film, each of such
layers may be compositionally the same as or different from other layers of thermoplastic
polymeric material.

3. The multilayer film of claim 1, wherein the sealing film comprises a material selected
from the group consisting of polyvinylidene chloride (PVDC), polyvinylidene bromide, and
ethylene vinyl alcohol polymers.

4. The multilayer film of claim 1, wherein the thermoplastic polymer film comprises a
thermoplastic polymer selected from the group consisting of polyurethane and polyurethane co-
polymers.

5. The multilayer film of claim 1, wherein the sealing film comprises a material selected from the group consisting of polyvinylidene chloride and EVOH.
6. The multilayer film of claim 1, wherein the sealing film comprises polyvinylidene chloride.
7. The multilayer film of claim 1, having a thickness in a range of from about 0.5 to about 50 mils (0.0127 mm to 1.27 mm).
8. The multilayer film of claim 1, having a thickness in a range of from about 0.5 to about 10 mils (0.0127 mm to 0.254 mm).
9. The multilayer film of claim 1, having a thickness in a range of from about 2 mils to about 6 mils (0.0508 mm to 0.1524 mm).
10. The multilayer film of claim 1, wherein the thickness of the sealing film is in a range of from about 0.2 mil to about 6 mil (0.00508 mm to 0.1524 mm).
11. The multilayer film of claim 1, wherein the thermoplastic polymer film has a thickness in a range of from about 2.0 mils to about 20.0 mils (0.0508 mm to 0.508 mm).
12. The multilayer film of claim 1, comprising a sealing film of polyvinylidene chloride, having a thickness in a range of from about 0.25 to about 2.0 mil (0.00635 mm to 0.0508 mm), to which a polyurethane elastomer film, having a thickness in a range of from about 2.0 mils to about 5.0 mils (0.0508 mm to 0.127 mm), is extrusion bonded.
13. The multilayer film of claim 1, bonded to a second such film.

14. The multilayer film of claim 13, wherein the bonded multilayer film and film bonded thereto form a gas-retentive enclosure.

15. A gas-retentive enclosure comprising a multilayer film, wherein said multilayer film comprises:

a layer of sealing film, having main top and bottom surfaces; and

a layer of thermoplastic polymer film, laminated to the layer of sealing film, on at least one of the main top and bottom surfaces;

wherein the sealing film has a composition and thickness imparting gas barrier character to the multilayer film and wherein the layer(s) of thermoplastic polymer film alone lacks such gas barrier character.

16. The gas-retentive enclosure of claim 15, further comprising a means for introducing gas into an interior volume of the gas-retentive enclosure.

17. The gas-retentive enclosure of claim 16, further comprising a means for releasing gas from the interior volume of the gas-retentive enclosure.

18. The gas-retentive enclosure of claim 15, wherein gas retained in said enclosure comprises water vapor.

19. The gas-retentive enclosure of claim 15, wherein gas retained in said enclosure comprises carbon dioxide.

20. A gastric occlusive device, comprising:

a balloon formed of a multilayer film comprising:

a layer of sealing film, having main top and bottom surfaces; and

a layer of thermoplastic polymer film, laminated to the layer of sealing film, on at least one of the main top and bottom surfaces;
wherein the sealing film has a composition and thickness imparting gas barrier character to the multilayer film and wherein the layer(s) of thermoplastic polymer film alone lacks such gas barrier character.; and
an effervescent material contained in said balloon, and arranged for contact with introduced liquid reactive with the effervescent material to liberate gas for inflation of the balloon.

21. The gastric occlusive device of claim 20, wherein the thermoplastic polymer film comprises a thermoplastic polymer selected from the group consisting of polyurethane elastomers, polyester ether elastomers, polyamide elastomers, polyamides, styrenic elastomers, polyvinylchloride, polyvinylethers, ethylene vinyl acetate, polyethylene, polyethylene copolymers, polypropylene copolymers, and combinations of two or more of the foregoing, and wherein when the multilayer film comprises more than one layer of thermoplastic polymer film, each of such layers may be compositionally the same as or different from other layers of thermoplastic polymeric material.

22. The gastric occlusive device of claim 20, wherein the sealing film comprises a material selected from the group consisting of polyvinylidene chloride (PVDC), polyvinylidene bromide, and ethylene vinyl alcohol polymers.

23. The gastric occlusive device of claim 20, wherein the thermoplastic polymer film comprises a thermoplastic polymer selected from the group consisting of polyurethane and polyurethane co-polymers.

24. The gastric occlusive device of claim 20, wherein the sealing film comprises a material selected from the group consisting of polyvinylidene chloride and EVOH.
25. The gastric occlusive device of claim 20, wherein the thermoplastic polymer film is formed of polyurethane or a polyurethane co-polymer.
26. The gastric occlusive device of claim 20, wherein the sealing film comprises polyvinylidene chloride.
27. The gastric occlusive device of claim 20, wherein the multilayer film has a thickness in a range of from about 0.5 to about 50 mils (0.0127 mm to 1.27 mm).
28. The gastric occlusive device of claim 20, wherein the multilayer film has a thickness in a range of from about 0.5 to about 10 mils (0.0127 mm to 0.254 mm).
29. The gastric occlusive device of claim 20, wherein the multilayer film has a thickness in a range of from about 2 mils to about 6 mils (0.0508 mm to 0.1524 mm).
30. The gastric occlusive device of claim 20, wherein the thickness of the sealing film is in a range of from about 0.2 mil to about 6 mil (0.00508 mm to 0.1524 mm).
31. The gastric occlusive device of claim 20, wherein the thermoplastic polymer film has a thickness in a range of from about 2.0 mils to about 20.0 mils (0.0508 mm to 0.508 mm).
32. The gastric occlusive device of claim 20, comprising a sealing film of polyvinylidene chloride, having a thickness in a range of from about 0.25 to about 2.0 mil (0.00635 mm to 0.0508 mm), to which a polyurethane elastomer film, having a thickness in a range of from about 2.0 mils to about 5.0 mils (0.0508 mm to 0.127 mm), is extrusion bonded.

33. The gastric occlusive device of claim 20, wherein two pieces of multilayer film are bonded to one another.

34. The gastric occlusive device of claim 20, wherein two half-sections of multilayer film are thermoformed, and then bonded to one another.

35. The gastric occlusive device of claim 20, wherein two pieces of multilayer film are bonded circumferentially to one another to form a 360° seal having a seam devoid of any neck or opening therein.

36. A method of therapeutic intervention for treatment of a patient in need of such treatment, said method comprising:

introducing to a physiological locus of a patient in need of such therapeutic intervention a balloon formed of a multilayer film, wherein said multilayer film comprises:

a layer of sealing film, having main top and bottom surfaces; and

a layer of thermoplastic polymer film, on at least one of the main top and bottom surfaces of the sealing film;

wherein the sealing film has a composition and thickness imparting gas barrier character to the multilayer film and wherein the layer(s) of thermoplastic polymer film alone lacks such gas barrier character;

with an effervescent material contained in said balloon, and arranged for contact with introduced liquid reactive with the effervescent material to liberate gas for inflation of the balloon.

37. The method of claim 36, wherein said balloon comprises two pieces of said multilayer film bonded to one another.

38. The method of claim 36, wherein said balloon comprises two half-sections of multilayer film that are thermoformed, and then bonded to one another.

39. The method of claim 36, wherein said balloon comprises two pieces of multilayer film that are bonded circumferentially to one another to form a 360° seal having a seam devoid of any neck or opening therein.

40. The method of claim 36, further comprising contacting the effervescent material with liquid reactive therewith to liberate gas for inflation of the balloon at said physiological locus.